

### ABSTRACT OF THE DISCLOSURE

A message is distributed from a source to one or more hosts in a communications network that comprises one or more multicast capable routers.

To do this, a first multicast capable router generates a first table that identifies sub-branches connected to the first multicast capable router, and for each identified sub-branch, includes membership-related information from which it can be determined how many hosts are part of the sub-branch and (optionally) a metric associated with each of the sub-branch hosts. The multicast capable router then receives the message to be distributed and a first value, *N1*, that specifies how many hosts the message is to be distributed to, and uses the first table to identify *N1* hosts and their respective sub-branches. It distributes the message to each of the identified sub-branches along with a second value that specifies how many hosts within the sub-branch the message is to be distributed to.